

## Earn an M.Ed. in Higher Education Administration Online

Classes Start September 17



May 16, 2006

# Who Wants to Be a Millionaire?

In case anybody needs a little extra motivation for developing hydrogen as an alternative fuel, Congress is moving to put some of its chips on the table in the form of a \$10 million reward for breakthrough technology.

Legislation creating the [“H-Prize”](#) passed the House last week by a vote of 416-6, and a companion bill will be introduced into the Senate this week.

The H-Prize takes its shape and name from the privately funded \$10 million Ansari X Prize, which led, in 2004, to the first privately developed manned rocket to reach outer space twice.

Members of the House Science Committee said that their bill would draw on American’s competitive spirit. Rep. Sherwood Boehlert, a New York Republican who leads the panel, said that “the potential payoff [of a hydrogen technology breakthrough] will be huge: cleaner air, less global warming, and most importantly, an economy that is not held hostage by foreign regimes or volatile oil markets.”

Both NASA and the Defense Advanced Research Projects Agency, or DARPA, have offered prizes for technology. Last year, a team from Stanford University won \$2 million from DARPA for [designing a robot that won a race across the Mojave Desert](#).

That competition saw some universities partnering with private companies, and researchers said that the H-Prize could prompt more of the same. Vasilios Manousiouthakis, head of the [Hydrogen Engineering Research Consortium](#) at the University of California at Los Angeles, pointed out that, compared to the kind of funding universities look for, \$10 million isn’t much – especially compared to the \$1.7 billion for hydrogen research that President Bush outlined in 2003 – but that it could still inspire innovation.

“This may generate the kind of private sector excitement that came with the X Prize,” said Manousiouthakis, also chair of the Chemical and Biomolecular Engineering Department. “The prize is small, but it may have recognition value.” He added that prizes like this tend to get smart people who aren’t at universities or in national labs motivated, and sometimes contributions come out of left field.

The \$10 million dollar prize will be for a development deemed: “transformation technology,” in the next 10 years. Every other year, four prizes up to \$1 million will be awarded for advances in hydrogen

distribution, production, storage, or utilization, in addition to one prize up to \$4 million for a hydrogen vehicle prototype.

Manousiouthakis added that the prizes likely would motivate some academic researchers. He said it might drive university researchers to look for commercial applications of their work, or to form partnerships with industry. “I may be interested in pursuing something myself,” he said.

Vivek Wadhwa, executive in residence at Duke University’s Pratt School of Engineering, has a background as an entrepreneur, and since joining the academy, said he has sensed something “amiss” with academic research.

“What I’ve realized is that the key ingredient missing is the hunger,” Wadhwa said. “The desire to succeed, the passion. They’re too comfortable. When you’re too comfortable, you have the luxury of doing fun things, rather than things that will have an impact. A lot of university research is done well and right, but it doesn’t translate to things that change the world.”

Wadhwa said that business, which is driven by survival and greed — “greed is good,” he said — has no choice but to make breakthroughs. He added that the H-Prize could be “a very good fire” under university researchers.

Neelkanth Dhere, professor of engineering and a hydrogen researcher at the University of Central Florida’s [Florida Solar Energy Center](#), said that the prizes might spur some partnerships, but that broad based competitive grants are really the key. “It may attract a few,” Dhere said of the H-Prize, “but regular funding is better. I’m not of the mindset where [monetary] incentives is the best thing to increase research and development.” Dhere said the fact that only a small number of people or groups can win the awards will deter most people from spending money to compete.

Tobin Smith, associate director of federal relations at the Association of American Universities, said that prizes are good in moderation. He noted that the DARPA contest included teams with both faculty members and students on them.

“I think you have to be careful that this doesn’t become the way to solve all our technological problems,” Smith said. “You still need competitive research awards. A lot of basic research is not about finding solutions to problems, but about finding knowledge ... sometimes finding things that you don’t know what their purpose will be.” Lasers and fiber optics are two examples titanic technologies that are now used for applications never considered when they were first discovered.

David Stonner, head of congressional affairs at the National Science Foundation, said that a cash prize won’t put brilliant ideas in researchers’ heads, but he said that groups of researchers might say, “we’re already working on this ... maybe we can make a difference,” and start thinking about commercial applications.

Stonner added that the National Science Foundation, at the behest of Rep. Frank Wolf, a Virginia Republican, is developing its own prize. “We’re in the process of structuring that,” Stonner said. “For basic research, it’s a little harder to conceptualize. How do you encourage people to discover something they haven’t discovered yet?”

— [David Epstein](#)

*The original story and user comments can be viewed online at*

[http://insidehighered.com/news/2006/05/16/prize.](http://insidehighered.com/news/2006/05/16/prize)

© Copyright 2007 *Inside Higher Ed*